

CLAIMS

What is claimed is:

1. A method of managing communications associated with a plurality of wireless devices, comprising:
 - detecting a first access point;
 - associating a station of a wireless switch with said first access point;
 - routing data between said plurality of wireless devices and said first access point using said first station;
 - detecting a second access point;
 - associating a second station of said wireless switch with said second access point;
 - monitoring signal strengths of said first and second access points as received by said first and second stations; and
 - switching to routing data between said plurality of wireless devices and said second access point using said second station in response to said monitoring.
2. The method of claim 1 further comprising:
 - associating said plurality of wireless devices with an access point of a wireless switch.
3. The method of claim 1 wherein said monitoring comprises:
 - applying a filtering function to received signal strengths.
4. The method of claim 1 further comprising:
 - maintaining a connection with said second access point by communicating ping packets through said second access point.
5. The method of claim 1 wherein said plurality of wireless devices and said wireless switch are moving in a common direction, the method further comprising:
 - operating a base station associated with said first access point by tracking movement of said plurality of wireless devices and said wireless switch using a directional antenna.

6. The method of claim 5 further comprising:
monitoring received signal strengths associated with respective patterns of antenna elements of said directional antenna; and
switching between said patterns in response to monitoring received signal strengths associated with the respective patterns.
7. The method of claim 1 wherein said switching comprises:
receiving packets from the first access point that are associated with transmission control protocol (TCP) sessions; and
sending acknowledgement packets in response to said receiving using said second station.
8. The method of claim 1 wherein said wireless switch is disposed within a transportation vehicle.
9. A wireless switch system for managing communications of a plurality of wireless devices, comprising:
an internal access point for managing a wireless local area network (WLAN) that includes said plurality of wireless devices;
a plurality of stations for communicating with external access points; and
a packet switch controller for routing data between said plurality of wireless devices and external access points using said plurality of stations, wherein said packet switch controller is operable to switch communications between said plurality of stations in response to signal strengths received from said plurality of access points crossing threshold values.
10. The wireless switch system of claim 9 wherein said packet switch controller maintains a connection with one of said plurality of access points by communicating ping packets through said one of said plurality of access points while data packets are communicated through another of said plurality of access points.
11. The wireless switch system of claim 9 wherein said packet switch controller applies a filtering function to received signal strengths.

12. The wireless switch system of claim 9 wherein when said packet switch controller switches communications between a first station to a second station, said switch controller distributes remaining packets received by said first station to said plurality of wireless devices and send acknowledgement packets through said second station.

13. A wireless system, comprising:

a plurality of access points; and

a wireless switch comprising:

a plurality of stations for communicating with said plurality of access points;

an internal access point for managing communication with a plurality of wireless devices; and

a packet switch controller for directing data between said plurality of stations and said plurality of wireless devices, wherein said packet switch controller switches between said plurality of stations in response to signal strengths received from said plurality of access points.

14. The wireless system of claim 13 wherein one of said plurality of access points comprises a base station with a directional antenna, said base station comprising a controller that tracks movement of said wireless switch using said directional antenna through a coverage area of said one of said plurality of access points.

15. The wireless system of claim 14 wherein said controller of said base station monitors signal strengths received from said wireless switch by a plurality of patterns of discrete antenna elements of said directional antenna.

16. The wireless system of claim 15 wherein said controller of said base station switches between said plurality of patterns in response to said monitoring.

17. The wireless system of claim 13 wherein said packet switch controller maintains a connection with one of said plurality of access points that is not currently used for data communications by routing ping packets through said one of said plurality of access points.

18. The wireless system of claim 13 wherein said wireless switch is mounted to a transportation vehicle.